

QL
392

H4
vol. 38
N/C

Helminthological abstracts

Editor: M. J. W. W. W. W. W.

Editorial Secretary: M. J. W. W. W. W.

Editorial Secretary: M. J. W. W. W. W.

Editorial Secretary: M. J. W. W. W. W.

Editorial Secretary: M. J. W. W. W. W.

Editorial Secretary: M. J. W. W. W. W.

Editorial Secretary: M. J. W. W. W. W.

Editorial Secretary: M. J. W. W. W. W.

Editorial Secretary: M. J. W. W. W. W.

Editorial Secretary: M. J. W. W. W. W.

Editorial Secretary: M. J. W. W. W. W.

Editorial Secretary: M. J. W. W. W. W.

Editorial Secretary: M. J. W. W. W. W.

Editorial Secretary: M. J. W. W. W. W.

Editorial Secretary: M. J. W. W. W. W.

Editorial Secretary: M. J. W. W. W. W.

Editorial Secretary: M. J. W. W. W. W.

Editorial Secretary: M. J. W. W. W. W.

Editorial Secretary: M. J. W. W. W. W.

Editorial Secretary: M. J. W. W. W. W.

Editorial Secretary: M. J. W. W. W. W.

Editorial Secretary: M. J. W. W. W. W.

Editorial Secretary: M. J. W. W. W. W.

Editorial Secretary: M. J. W. W. W. W.

Editorial Secretary: M. J. W. W. W. W.

Editorial Secretary: M. J. W. W. W. W.

Editorial Secretary: M. J. W. W. W. W.



HELMINTHOLOGICAL ABSTRACTS

Volume 38, 1969

This journal is prepared by the staff of the
Commonwealth Bureau of Helminthology, The White House,
103 St. Peter's Street, St. Albans, Hertfordshire, England.

Director: Sheila Willmott Ph.D.

Consultant Director: Professor G. S. Nelson M.D., D.Sc.

Assistant Director: J. E. Peachey Ph.D.

Scientific Staff: Janina H. Bard M.Sc. (*part-time*), J. Breen B.Sc.,
J. A. Dinnik D.Sc. (*part-time*), Lynda M. Gibbons B.Sc., P. S. Gooch B.Sc.,
C. W. Gordon B.A., Janet R. Harris B.Sc., L. F. Khalil Ph.D.,
Grazyna I. Pozniak (*part-time*), M. R. N. Shephard M.Sc., M. R. Siddiqi D.Sc.

Supporting Staff: Betty Birdsey, G. W. Dimmock, Joanna L. Field,
Edith M. Gandy (*part-time*), Barbara Gibson, Rosina M. Gordon (*part-time*),
Ann F. Hall, Helen J. Hart (*part-time*), Ursula Hunt (*part-time*), Rosemary H. Kitchin,
Gladys Nachbaur, Margaret A. Smith, Frances Warren.

Abstracts and book reviews in this volume are by: R. C. Anderson,
Janina H. Bard, Mary Beverley-Burton, S. Bingeors, J. C. Boray, J. Breen,
M. W. Brzeski, W. L. Bullock, R. Cooke, H. Cruz, J. T. Davey, J. A. Dinnik,
Lucienne Edmondston-Low, D. A. Erasmus, K. B. Eriksson, Mary T. Franklin,
Barbara Gibson, T. E. Gibson, P. S. Gooch, C. W. Gordon, M. M. Haque,
Janet R. Harris, Kathleen Heath, M. R. Honer, D. E. Jacobs, M. S. Jairajpuri,
L. F. Khalil, E. L. Krall, Jennifer A. Lambert, M. W. Lankester, D. W. Larbey,
D. M. Lowe, J. N. Oldham, Sarah A. E. Page, J. E. Peachey, Grazyna I. Pozniak,
W. P. Rogers, G. D. Schmidt, M. R. N. Shephard, R. S. Shults, M. R. Siddiqi,
J. W. Smith, Nora G. Sproston, Y. Tigin, H. E. Welch, H. H. Williams,
Sheila Willmott, K. A. Wright, P. C. Young.

This journal is published quarterly by the Commonwealth
Agricultural Bureaux, Farnham House, Farnham Royal,
Near Slough, Buckinghamshire, England and printed by
Richard Bates Limited, Southmoor Road, Manchester M23 9NR,
England.

The Executive Council of the Commonwealth Agricultural
Bureaux is a signatory to the Fair Copying Declaration
details of which can be obtained from The Royal Society,
6 Carlton House Terrace, London, S.W.1.

© Commonwealth Agricultural Bureaux, 1970.

HELMINTHOLOGICAL ABSTRACTS

Vol. 38, 1969

CONTENTS

	Page		
REVIEW ARTICLE—B. M. ZUCKERMAN	I	—	—
REVIEW ARTICLE—W. M. FITZSIMMONS	—	139	—
ROBERT THOMSON LEIPER	—	—	331
REVIEW ARTICLE—J. F. A. SPRENT	—	—	333
Section A—Animal Helminthology Abstracts	17	191	353
ANIMAL HOSTS	17	191	353
ASSOCIATIONS	38	215	371
MORPHOLOGY, TAXONOMY AND NOMENCLATURE	39	216	371
IMMUNITY AND SEROLOGY	58	242	385
PATHOGENESIS AND PATHOLOGY	67	251	394
BIOCHEMISTRY AND PHYSIOLOGY	73	259	401
ECOLOGY AND BEHAVIOUR	79	265	406
GEOGRAPHICAL DISTRIBUTION	83	270	409
EPIDEMIOLOGY AND EPIZOOTIOLOGY	84	271	410
CONTROL	88	278	417
TECHNIQUE	105	295	430
LIFE-HISTORY	108	298	433
CYTOLOGY, GENETICS AND EVOLUTION	112	304	436
HIRUDINEA	—	—	—
UNCLASSIFIED	113	305	438
BOOKS AND NON-PERIODICALS	113	306	439
REPORTS	115	308	441
Section B—Plant Nematology Abstracts	117	309	443
PLANT HOSTS	117	309	443
ASSOCIATIONS	120	313	448
FREE-LIVING AND MARINE NEMATODES	122	314	449
MORPHOLOGY, TAXONOMY AND NOMENCLATURE	122	314	449
BIOLOGY	128	319	451
ECOLOGY	131	322	453
GEOGRAPHICAL DISTRIBUTION	133	324	454
CONTROL	133	324	454
TECHNIQUE	135	327	460
CYTOLOGY, GENETICS AND EVOLUTION	136	328	462
UNCLASSIFIED	136	329	462
BOOKS AND NON-PERIODICALS	137	329	462
REPORTS	137	330	462
Index of Authors	—	—	—
Index of Subjects	—	—	—
Corrigenda	—	—	—